REMARKS

Applicants request favorable reconsideration of this application in view of the foregoing amendments and the following remarks. Of claims 1-19 that were pending in the application, claims 1-4, 7, 10-14, and 17 were rejected in the Office Action. Applicants greatly appreciate the positive indication of allowable subject matter in each of claims 5, 6, 8, 9, 15, 16, 18, and 19. In response to this positive indication, claims 5, 8, 15, and 18 (*i.e.,* the claims from which claims 6, 9, 16, and 19 depend, respectively) have been amended to be in independent claim format and to address matters of form. Therefore, claims 5, 6, 8, 9, 15, 16, 18, and 19 should be in condition for allowance. In total, Applicants have amended all of claims 1-19, which are respectfully presented for further consideration.

1. Provisional Double Patenting Rejection

The Examiner provisionally rejected all of claims 1-19 "under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of copending [U.S. Patent] Application No. 10/830,065." Applicants respectfully acknowledge this provisional rejection (and the same provisional rejection made in copending U.S. Patent Application No. 10/830,065). However, until the claims of either the current application or copending U.S. Patent Application No. 10/830,065 are allowed, no action is required on Applicants' part.

2. Rejections of Claims 1-4, 7, 10-14, 17

Under 35 U.S.C. § 102(b), the Examiner rejected claims 1, 2, 4, and 10-12[1] as allegedly being anticipated by U.S. Patent No. 5,862,507 ("Wu"). In addition, under 35 U.S.C. § 103(a), the Examiner rejected: (i) claims 3 and 13 as allegedly being obvious in view of Wu; (ii) claims 4 and 14 as allegedly being obvious when considering Wu in view of U.S. Patent No. 5,841,025 ("Remboski"); and (iii) claims 7 and 17 as allegedly being obvious when considering Wu in view of U.S. Patent No. 6,907,341 ("Aono"). For the following reasons, Applicants respectfully traverse each of these rejections.

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[1] The listing of claims rejected under § 102(b) included claim 14. Claim 14, however, was later rejected based on the combination of Wu and Remboski under § 103(a). Moreover, the Examiner acknowledged (in the § 103(a) rejection) that Wu "fails to teach a 'calculating section [that] calculates said threshold for cancellation judgment according to an engine load and the engine speed.'" Office Action at p. 5. Accordingly, Applicants assume that the listing of claim 14 under the § 102(b) rejection was erroneous and inadvertent.

Preliminarily, Applicants respectfully submit that Aono is <u>not</u> prior art. Aono issued on June 14, 2005 based on an application filed, in the United States, on October 2, 2003. Under 35 U.S.C. § 102(e), for a patent, which issued after an application was filed, to be prior art against that application, the patent must have been "granted on an application for patent by another filed *in the United States before the invention by the applicant for patent*[.]" In this case, Applicants' invention was recited in the priority document JP 2003-120324, which was filed on April 24, 2003, *i.e.,* almost six months prior to Aono's U.S. filing date. Accordingly, Aono was not "filed in the United States before" the Applicants invented the subject matter of the instant application and, therefore, Aono is not § 102(e) prior art. To enable the Examiner to confirm that the priority document supports the limitation recited in claims 7 and 17, a certified English translation of the priority document will be filed in the coming days.

As Aono is not prior art, the rejection of claims 7 and 17 under § 103(a) is moot. Moreover, as the rejection of claims 7 and 17 is moot, these claims have been amended to be in independent claim format, thereby enabling them to be allowed. In light of the foregoing, the prior art rejections will be addressed, and respectfully traversed, with respect to claims 1-4 and 10-14.

As amended herein, claim 1 (*i.e.,* the claim from which claims 2-4 depend) recites a misfire detecting apparatus for an internal combustion engine. The apparatus includes, among other possible things (italic emphasis added):

> an operating condition detector that is configured to detect engine operating conditions inclusive of an engine rotation speed; and
> a calculating section that is configured to:
>> calculate diagnosis data indicating a variation of said engine rotation speed;
>> calculate a threshold based on said engine operating conditions;
>> judge whether a misfire occurred, based on a first comparison between the calculated diagnosis data and the calculated threshold;
>> calculate data indicating an average correlation between said calculated diagnosis data and said calculated threshold;
>> *judge whether said calculated diagnosis data becomes larger on average on the basis of said calculated threshold, based on a result of a second comparison between said data indicating the average correlation and a threshold for cancellation judgment; and*
>> *cancel the misfire judgment as a result of the second comparison.*

Similarly, as amended, claim 10 recites a misfire detecting apparatus for an internal combustion engine. This apparatus includes, among other possible things (italic emphasis added):

> means for detecting engine operating conditions inclusive of an engine rotation speed;
>
> means for calculating diagnosis data indicating a variation of said engine rotation speed;
>
> means for calculating a threshold based on said engine operating conditions;
>
> means for judging whether a misfire occurred, based a first comparison between said calculated diagnosis data and said calculated threshold;
>
> means for calculating data indicating an average correlation between said calculated diagnosis data and said calculated threshold;
>
> *means for judging whether said calculated diagnosis data becomes larger on average on the basis of said calculated threshold, based on a result of a second comparison between said data indicating the average correlation and a threshold for cancellation judgment; and;*
>
> *means for canceling the misfire judgment as a result of the second comparison.*

Finally, claim 11 (*i.e.,* the claim from which claims 12-14 depend) recites a misfire detecting method for an internal combustion engine. This method includes, among other possible steps (italic emphasis added):

> detecting engine operating conditions inclusive of an engine rotation speed;
>
> calculating diagnosis data indicating a variation of said engine rotation speed;
>
> calculating a threshold based on said engine operating conditions;
>
> judging whether a misfire occurred, based on a first comparison between said calculated diagnosis data and said calculated threshold;
>
> calculating data indicating an average correlation between said calculated diagnosis data and said calculated threshold;
>
> *judging whether said calculated diagnosis becomes larger on average on the basis of said calculated threshold, based on a result of a second comparison between said data indicating the average correlation and a threshold for cancellation judgment; and*
>
> *canceling the misfire judgment as a result of the second comparison.*

As hereafter explained in detail, neither Wu nor Remboski (standing alone or combined) teaches or suggests the apparatuses recited in claims 1 and 10 or the method recited in claim 11.

As indicated by the Examiner (at pp. 2-3 of the Office Action), Wu teaches a comparison and decision generator that outputs a one for a misfire or a zero for normal firing. *See* Wu at col. 10, lines 36-61. Wu, however, does not teach or suggest that the engine misfire judgment itself is canceled (*i.e.,* no action taken by the comparison and decision generator) as a result of a comparison between "data indicating the average correlation and a threshold for cancellation judgment." Remboski fails to cure this deficiency of Wu. Specifically, although Remboski also discloses an engine misfire detection system, Remboski also fails to teach or suggest that the engine misfire detection judgment is canceled as a result

of a comparison between "data indicating the average correlation and a threshold for cancellation judgment."

In contrast to Wu and Remboski, the instant application teaches, for example, in Step S17 that the cancellation (not a "misfire") flag is set to one, thereby canceling the misfire judgment and ending the routine. *See, e.g.,* p. 10, lines 9-12; Figs. 2, 4, and 5.

As neither Wu nor Remboski teaches or suggest the above-italicized limitation of claims 1, 10, and 11, the references standing alone or combined can not be used to rejected claims 1, 10, and 11, or any claim dependent thereon, under 35 U.S.C. §§ 102(b), 103(a). Moreover, as claims 2-4 depend from claim 1 and as claims 12-14 depend from claim 11, each of these dependent claims is also allowable over Wu and Remboski, without regard to the other patentable limitations recited therein. Accordingly, a withdrawal of the §§ 102(b), 103(a) rejections of claims 1-4 and 10-14 is both warranted and respectfully requested.

CONCLUSION

For the aforementioned reasons, claims 1-19 are now in condition for allowance. A Notice of Allowance at an early date is respectfully requested. The Examiner is invited to contact the undersigned if such communication would expedite the prosecution of the application.

Respectfully submitted,

December 7, 2005

Date _____   By _____

Pavan K. Agarwal
Registration No. 40,888

Customer Number: 22428
FOLEY & LARDNER LLP
3000 K Street, N.W.
Suite 500
Washington, D.C. 20007-5143

Frederic T. Tenney
Registration No. 47,131

Telephone: (202) 672-5300
Facsimile: (202) 672-5399

Attorneys for Applicants

THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY ADDITIONAL FEES WHICH MAY BE REQUIRED REGARDING THIS APPLICATION UNDER 37 C.F.R. §§ 1.16-1.17, OR CREDIT ANY OVERPAYMENT, TO DEPOSIT ACCOUNT NO. 19-0741. SHOULD NO PROPER PAYMENT BE ENCLOSED HEREWITH, AS BY A CHECK BEING IN THE WRONG AMOUNT, UNSIGNED, POST-DATED, OTHERWISE IMPROPER OR INFORMAL OR EVEN ENTIRELY MISSING, THE COMMISSIONER IS AUTHORIZED TO CHARGE THE UNPAID AMOUNT TO DEPOSIT ACCOUNT NO. 19-0741. IF ANY EXTENSIONS OF TIME ARE NEEDED FOR TIMELY ACCEPTANCE OF PAPERS SUBMITTED HEREWITH, APPLICANT HEREBY PETITIONS FOR SUCH EXTENSION UNDER 37 C.F.R. § 1.136 AND AUTHORIZES PAYMENT OF ANY SUCH EXTENSIONS FEES TO DEPOSIT ACCOUNT NO. 19-0741.

AMENDMENTS TO THE DRAWINGS

Figure 1 has been amended to remove reference numeral "122", which was not discussed in the specification.